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Table of Contents for Supplemental Material

Combining PM_{2.5} Component Data from Multiple Sources: Data Consistency and Characteristics Relevant to Epidemiological Analyses of Predicted Long-Term Exposures

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Sampling periods and EC measurements

Table S1. Numbers of monitoring sites and 2-week average samples for silicon, EC, and PM_{2.5} used for spatio-temporal exposure prediction models by monitor type and city region in EPA AQS and NPACT monitoring networks from 2000 through 2009.

Figure S1. Temporal and spatial sampling for silicon and EC by CSN, IMPROVE, and NPACT monitors in Los Angeles. CSN sites changed the filter analysis method for EC and OC from the NIOSH_TOT (red dots) to IMPROVE_A TOR (orange dots) method from May 2007.

Figure S2. Temporal trends of log-transformed 2-week averages of silicon and EC measured by 6-27 CSN and 1-8 IMPROVE sites in Los Angeles, Chicago, Minneapolis-St. Paul, Baltimore, New York, and Winston-Salem from 1999 through 2009.

Figure S3. Scatter plots of log-transformed every 3rd day measurements of EC ($\mu\text{g}/\text{m}^3$) between pre- and post-filter analysis method change for the overlapping 2 months from May 2007 through July 2007 at six CSN sites co-located with NPACT sites in six MESA city areas.

Figure S4. Temporal trends of log-transformed 2-week average of EC for the overlapping period from May 2007 through August 2008 between co-located CSN and NPACT fixed sites in each of six MESA city areas.

Figure S5. Scatter plots of log-transformed 2-week averages of silicon for the overlapping period from August 2005 through August 2009 between co-located CSN and NPACT fixed sites in each of six MESA city areas.

Figure S6. Temporal trends of log-transformed 2-week averages of silicon for the overlapping period from August 2005 through August 2009 between co-located CSN and NPACT fixed sites in each of six MESA city areas.

Figure S7. Time series of log-transformed 2-week averages of silicon and EC across home-outdoor sites along with one temporal pattern estimated using NPACT fixed sites in Los Angeles and Chicago.

Figure S8. Temporal patterns of log-transformed 2-week averages of silicon (top) and EC (bottom) across NPACT fixed sites along with trends of $PM_{2.5}$ and NO_x across EPA AQS sites in the Minneapolis-St. Paul area.

References